Economics for Natural Resources and the Environment (ENST 387)
Location: WPH 207
9:00-9:50am MWF
Spring 2017, 4 units

Course overview: This class will introduce students to the basic precepts of environmental and resource economics, with an eye toward the increasing influence of resource economics policy responses to environmental problems. The theoretical basis is then applied to such aspects as traditional and “green” energy, the energy-water nexus, air quality, and environmental management, with an emphasis on resource sustainability and conservation. This course is built both on lectures and on student discussion and debate. Students are expected to study the required text assignment before lectures. Students will be also asked to prepare short presentations on major issues discussed in the course.

Readings:
2. Other readings will be posted on the Blackboard on the weekly basis.

Course goals:
1. Be able to use critically the many sources of information about environmental economic policies to solve empirical problems.
2. Be able to use theoretical perspectives to identify and explain domestic and global environmental problems and the linkages among them.
3. Demonstrate the habit of accessing sources of environmental knowledge and the skill to critically interpret, assess and apply evidence.

Learning objectives:
- an interdisciplinary approach to complex environmental problems using basic tools of economics and international processes;
- the ability to work effectively as a member of an interdisciplinary team on complex problems involving multiple competing stakeholders and agendas;
- the ability to critically evaluate the economic and policy ramifications of diverse energy portfolios on air and water quality, climate, weapons proliferation and societal stability;
- an experience-based understanding of economic policies in California including water and energy needs, air quality, marine and coastal issues;
- the ability to write effectively about complex environmental problems and do so for both specialist and general audiences with equal facility; and
- the ability to apply quantitative reasoning skills to environmental problems including basic calculations related to sustainability issues and the use of quantitative methods in data analysis and argumentation.

Please refer to https://dornsife.usc.edu/environmental-studies/learning-objectives/ for more information.
Research paper:
The writing assignment of the course is an original research paper of minimum 15 pages (including bibliography, double-spaced). This will be on a topic of the student’s choice, refined in collaboration with the instructors and reflecting the student’s research interests. Please use a 12-point font; 1-inch margins; double-spaced. Required number of sources: 15 per paper. The instructors will provide additional guidelines on the required diversity of sources. Each student will present his/her major research points in class. When you submit the paper, please give a hard copy to the instructor AND upload the paper on the Blackboard in “Assignments.”

Grading
Midterm Exam 1 20%
Midterm Exam 2 20%
Final Exam 20%
Research Paper 20%
Quizzes/Homework/Presentations in class 20%

Academic Conduct
Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity http://equity.usc.edu/ or to the Department of Public Safety http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems
A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute http://dornsife.usc.edu/all, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information http://emergency.usc.edu/ will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Grading and Correction of Grades
Excerpts for this section have been taken from the University Grading Handbook, located at http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html. Please see the link for more details on this and any other grading concerns.

A grade of Missing Grade (MG) “should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing
grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average a zero grade points.

A grade of Incomplete (IN) “is assigned when work is not completed because of documented illness or other ‘emergency’ occurring after the twelfth week of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks).”

**Course Schedule:**

**Week 1: January 9, 11, 13**

Introduction. Course Objectives and Structure.

Tools of Economics: Concepts  
Tietenberg & Lewis, Chapter 1  
Carbon Disclosure Project. “Use of Internal Carbon Price by Companies.” December 2013

**Week 2: January 18, 20**

**Martin Luther King’s Birthday - Monday, January 16 – NO CLASS**

Tools of Economics: Concepts  
Tietenberg & Lewis, Chapter 2  

**Week 3: January 23, 25, 27**

Tools of Economics: Concepts (continued)  
Tietenberg & Lewis, Chapter 3  

**Week 4: Jan, 30. Feb. 1, 3**

Environmental Methods (continued)  
Tietenberg & Lewis, Chapter 4  
**Case-Study:** California High-Speed Rail Authority. “California High-Speed Rail Benefit-Cost Analysis (BCA)” Prepared by Parsons and Brinckerhoff. April 2012

**Week 5: Feb. 6, 8, 10**

**Case-Study:** Industrial Economics, Inc. “Final Report: Assessing the Economic Benefits of Reductions in Marine Debris: A Pilot Study of Beach Recreation in Orange County,
Week 6: Feb. 13, 15, 17

**Midterm Exam 1 – February 15, 2016, Wednesday**

Sustainable Development.
Tietenberg & Lewis, Chapter 5

Week 7: Feb. 20, 22, 24

**President’s Day -- Mon, February 20 – NO CLASS**

The Population Problem
Tietenberg & Lewis, Chapter 6

Week 8: Feb. 27, March 1, 3

Natural Resource Economics.
Tietenberg & Lewis, Chapter 7 and 16

Energy-Water Nexus
Tietenberg & Lewis, Chapter 8

Low Carbon Technology Partnerships initiative [http://lctpi.wbcsd.org/reports/](http://lctpi.wbcsd.org/reports/)

Week 9: March 6, 8, 10

Water
Tietenberg & Lewis, Chapter 9


Land
Tietenberg & Lewis, Chapter 10

Week 10: Spring Recess -- Sun-Sun, March 12-19 – NO CLASS

Week 11: March 20, 22, 23

Agriculture
Tietenberg & Lewis, Chapter 11

Forest Habitat. Fisheries
Tietenberg & Lewis, Chapter 12
Environmental Economics: An Overview.
Tietenberg & Lewis, Chapter 14

Week 12: March 27, 29, 31

Midterm Exam 2 – March 27, 2016, Monday

Air Pollution.
Tietenberg & Lewis, Chapter 15

Water Pollution.
Tietenberg & Lewis, Chapter 18

Week 13: April 3, 5, 7

Paper presentations (continued)

Transportation.
Tietenberg & Lewis, Chapter 17

Week 14: April 10, 12, 14
Research Paper is Due

Managing Waste.
Tietenberg & Lewis, Chapter 19

Week 15: April 17, 19, 21

Poverty and Development.
Tietenberg & Lewis, Chapter 20, 21

Week 16: April 24, 26, 28

Conclusions. Review for the final exam.

FINAL EXAM: Friday, May 5 from 8-10 a.m. in WPH 207 (the usual location of our class)